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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,161	11/21/2001	Masashi Aonuma	Q66561	9563

7590 11/13/2007
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
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Washington, DC 20037-3202

EXAMINER

VAN HANDEL, MICHAEL P

ART UNIT	PAPER NUMBER
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2623

MAIL DATE	DELIVERY MODE
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11/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/989,161

Applicant(s)

AONUMA, MASASHI

Examiner

Michael Van Handel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,9 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,9 and 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Miscellaneous

1. In a telephone conversation with the examiner, Applicant noted that the examiner failed to address the newly added claim 13 in the Non-Final rejection mailed 9/25/2007. As such, the examiner addresses the claim in the supplemental Non-Final Office Action below. The examiner apologizes for any inconvenience.

Response to Amendment

1. This action is responsive to an Amendment filed 7/09/2007. Claims 1-4, 9, 11-13 are pending. Claims 1, 11 are amended. Claims 5-8, 10 are canceled. Claim 13 is new.

Response to Arguments

1. Applicant's arguments regarding claims 1 and 11, filed 7/09/2007, have been fully considered, but they are not persuasive.

Regarding claim 1, the applicant notes that section 4.7.2 of the USB specification describes transfers of bulk data files, including that the bulk data transfers take up whatever bandwidth is available and not used by other transfer types, but notes that the bandwidth available is a function of occupancy of the network and not the data transfer rate of the network. The applicant specifically argues that the discussion of bandwidth does not affect a rate of output. The examiner respectfully disagrees. Section 4.7.2 of the USB specification discloses that the bandwidth taken up by bulk data in a bulk data transfer can be whatever is available and

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not being used for other transfer types (USB Specification p. 33, 4.7.2 Bulk Transfers). The USB specification further discloses in section 5.8, that bulk transfers occur only on a bandwidth available basis, and further discloses that, for a USB with large amounts of free bandwidth, bulk transfers may happen relatively quickly, while for a USB with little bandwidth available, bulk transfers may trickle out over a relatively long period of time. Section 5.8 also states that bulk transfers can be deferred until bandwidth is available (USB Specification p. 58-59, 5.8 Bulk Transfers). As such, the examiner maintains that, in the case of bulk transfers, rate of output is affected by the amount of available bandwidth and that the USB specification meets the limitation of "wherein the buffer memory outputs data at a variable rate depending on a data transfer rate of the network," as currently claimed.

Regarding claim 11, the applicant argues that the error encoding discussed in sections 4.5.1 and 4.5.2 of the USB specification do not require retransmission at the buffer side. The examiner respectfully disagrees. The applicant specifically argues that the error recovery originates from the host controller side, and not the side of the transaction including the buffer memory. The USB specification states that bulk transfers may originate from the device or the client (USB Specification p. 212, 10.5.3.1.3 Bulk Transfers). If the received packet is corrupted, the receiver will not toggle its sequence bit. Figure 8-17 shows that in this case, the transaction is not acknowledged (NAKed) and then retried. That is, if the receiving end is the host and received data cannot be accepted or is corrupt, the host will send a NAK or STALL handshake and the transfer is retried. As shown in Figure 8-17, the retry still involves the transmitting end. If the retry is successful, the transmitter and receiver sequence bits will toggle (USB Specification p. 158, 8.6.3 Data Corrupted or Not Accepted). As such, the examiner maintains

that the side of the transaction including the buffer memory is involved in the transfer retry and that the USB specification meets the limitation of “wherein the buffer memory retransmits the image data in the event of data loss during a transfer over the network,” as currently claimed.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **1-4, 9, and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Camara et al. in view of the Universal Serial Bus (USB) Specification, Revision 1.0.

Referring to claim **1**, Camara et al. discloses an image data transfer system comprising an image information reading apparatus (scanner 24) for reading image data representing an image from a sheet having the image recorded therein and an image display apparatus (computer 22) connected to the image information reading apparatus by a network (universal serial bus (USB) 50)(Fig. 1), the image data read by the image information reading apparatus being transferred to the image display apparatus and the image display apparatus displaying the image data as a visible image (Fig. 5), wherein the image information reading apparatus comprises a buffer memory for storing the image data for the sheet and sequentially stores in the buffer memory the image data obtained at the time of reading the image data while sequentially outputting the image data from the buffer memory (the examiner notes that buffer memory is inherent to the scanner 24 in order to transfer data on a USB network (see USB Specification Revision 1.0, p.

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34, 4.7.5, which states that USB devices are required to provide some buffering of data) and that data must be sequentially stored in this buffer memory, while being sequentially output in order to progressively display the image as that taught by Camara et al.)(col. 5, l. 54-61).

Camara et al. does not specifically disclose that the buffer memory outputs data at a variable rate depending on a data transfer rate of the network; however, the USB specification discloses a bulk transfer type of data transfer that is typically used for scanners. A bulk transfer can occur relatively quickly if there is a large amount of free bandwidth or may trickle out over a relatively long period of time if there is little bandwidth available (USB Specification p. 59, top of page). The USB specification further states that bulk transfers may be delayed until bandwidth is available (USB Specification p. 50, definition of "Bulk Transfers"). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the networked scanner of Camara et al. to include transferring data at a rate according to available bandwidth, such as that taught by the USB specification in order to support devices that need to communicate relatively large amounts of data at highly variable times (USB Specification p. 58, 5.8 Bulk Transfers).

Referring to claim 2, the combination of Camara et al. and the USB specification teaches the image data transfer system according to claim 1, wherein the image display apparatus is separately and independently housed from the image information reading apparatus (Camara et al. Fig. 1).

Referring to claim 3, the combination of Camara et al. and the USB specification teaches the image data transfer system according to claim 1, wherein the network utilizes one of Ethernet, Universal Serial Bus (see claim 1) and FireWire (IEEE 1394) connection.

NOTE: The USPTO considers the applicant's "one of" language to be anticipated by any reference containing any of the subsequent corresponding elements.

Referring to claim 4, the combination of Camara et al. and the USB specification teaches the image data transfer system according to claim 1, wherein the image display apparatus sequentially displays the image data from a first image from the buffer memory of the image information reading apparatus while the image information reading apparatus reads the image data of said first image from the sheet (see claim 1).

Referring to claim 9, the combination of Camara et al. and the USB specification teaches the system of claim 2, wherein the buffer memory is incorporated in a housing of the image information reading apparatus (the examiner notes that it is inherent that a buffer be included in the scanner in order to transfer data on a USB network).

Referring to claim 11, Camara et al. discloses an image data transfer system comprising an image information reading apparatus (scanner 24) for reading image data representing an image from a sheet having the image recorded therein and an image display apparatus (computer 22) connected to the image information reading apparatus by a network (universal serial bus (USB) 50)(Fig. 1), the image data read by the image information reading apparatus being transferred to the image display apparatus and the image display apparatus displaying the image data as a visible image (Fig. 5), wherein the image information reading apparatus comprises a buffer memory for storing the image data for the sheet and sequentially stores in the buffer memory the image data obtained at the time of reading the image data while sequentially outputting the image data from the buffer memory (the examiner notes that buffer memory is inherent to the scanner 24 in order to transfer data on a USB network (see USB Specification

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Revision 1.0, p. 34, 4.7.5, which states that USB devices are required to provide some buffering of data) and that data must be sequentially stored in this buffer memory, while being sequentially output in order to progressively display the image as that taught by Camara et al.)(col. 5, l. 54-61).

Camara et al. does not specifically disclose that the buffer memory retransmits the image data in the event of data loss during transfer over the network; however, the USB specification discloses ensuring the reliable exchange of data by using error detection and invoking a limited hardware retry (USB Specification p. 33, 4.7.2). The USB specification further discloses detecting a transfer error/failure and retrying the transfer (USB Specification p. 31, 4.5.1 & 4.5.2; p. 158, 8.6.3 Data Corrupted or Not Accepted; & p. 212, 10.5.3.1.3 Bulk Transfers). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the networked scanner of Camara et al. to include retrying a data transfer in response to detecting a transfer error, such as that taught by the USB specification in order to ensure data integrity.

3. Claims 1, 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigyo et al. in view of Camara et al. and further in view of the Universal Serial Bus (USB) Specification, Revision 1.0.

Referring to claim 1, Shigyo et al. discloses an image data transfer system transfer system comprising an image information reading apparatus 14 for reading image data representing an image from a sheet having the image recorded therein (col. 6, l. 23-30 & Fig. 1) and an image display apparatus 20 connected to the image information reading apparatus by a network, the

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image data read by the image information reading apparatus being transferred to the image display apparatus and the image display apparatus displaying the image data as a visible image (col. 6, l. 33-40). Shigyo does not disclose that the image information reading apparatus comprises a buffer memory for storing the image data for the sheet and sequentially stores in the buffer memory the image data obtained at the time of reading the image data while sequentially outputting the image data from the buffer memory. Camara et al. discloses a scanner 24 with a Universal Serial Bus (USB) connection to a computer 22 with a display 48 (Fig. 1). The examiner notes that a buffer is inherent to a USB device. Camara et al. further discloses that, in response to a Scan/Open command, the scanner scans an image. Concurrently with this scanning action, the image progressively appears in the preview scan space 124 to visually convey that the scanner is scanning the image. In one implementation, the image is progressively displayed row-by-row from top to bottom of the image (col. 5, l. 54-61). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the network of Shigyo to progressively display an image as it is being scanned, such as that taught by Camara et al. in order to keep a user updated on the progress of a data transfer.

The combination of Shigyo et al. and Camara et al. does not specifically teach that the buffer memory outputs data at a variable rate depending on a data transfer rate of the network; however, the USB specification a bulk transfer type of data transfer that is typically used for scanners. A bulk transfer can occur relatively quickly if there is a large amount of free bandwidth or may trickle out over a relatively long period of time if there is little bandwidth available (USB Specification p. 59, top of page). The USB specification further states that bulk transfers may be delayed until bandwidth is available (USB Specification p. 50, definition of

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“Bulk Transfers”). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the combination of Shigyo et al. and Camara et al. to include transferring data at a rate according to available bandwidth, such as that taught by the USB specification in order to support devices that need to communicate relatively large amounts of data at highly variable times (USB Specification p. 58, 5.8 Bulk Transfers).

Referring to claim **12**, the combination of Shigyo et al., Camara et al., and the USB specification teaches the system of claim 1, wherein the image information reading apparatus comprises an erasing unit for erasing data from the sheet after reading out the image recorded therein (Shigyo et al. col. 6, l. 49-53).

Referring to claim **13**, the combination of Shigyo et al., Camara et al., and the USB specification teaches the system of claim 1, wherein the image information is medical information (images such as a chest, a stomach, a bone, etc.)(Shigyo et al. col. 6, l. 23-49; col. 8, l. 10-15; col. 11, l. 31-35; & Fig. 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Van Handel whose telephone number is 571-272-5968. The examiner can normally be reached on 8:00am-5:30pm Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MVH

A handwritten signature in black ink, appearing to read "Chris Kelley". The signature is fluid and cursive, with the first name "Chris" and last name "Kelley" clearly distinguishable.

CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600